What Is Claimed Is:

1. A method for diagnosing acute lymphoblastic leukemia (ALL), comprising:

(a) measuring the levels of gene expression of leukotriene C4 synthase (LTC4S) gene and Zyxin in a biological sample taken from a patient suspected of having ALL; and

(b) comparing the levels of gene expression in said biological sample with a standard sample, wherein low levels of expression are indicative of a diagnosis of ALL.

2. A method for diagnosing ALL, comprising:

(a) measuring the levels of gene expression of LYN V-yes-1 Yamaguchi sarcoma viral related oncogene homolog, PPGB Protective protein for beta-galactosidase, and Zyxin in a biological sample taken from a patient suspected of having ALL; and

(b) comparing the levels of gene expression in said biological sample with a standard sample, wherein low levels of expression are indicative of a diagnosis of ALL.

3. A method for determining a prognosis of a patient with AML, comprising:

(a) measuring the levels of gene expression of POU3F1 POU domain, class 3, transcription factor 1 and GB DEF = homeodomain protein HoxA9 mRNA in a biological sample taken from a patient with AML; and

(b) comparing the levels of gene expression in said biological sample with a standard sample, wherein medium-high levels of POU3F1 POU domain, class 3, transcription factor 1 and high levels of GB DEF = homeodomain protein HoxA9 mRNA, are indicative of a favorable prognosis.

4. A method for screening drugs which are useful for treating acute leukemia, comprising:

(a) administering to a cell culture a drug of interest;

(b) comparing the levels of gene expression of leukotriene C4 synthase (LTC4S) gene and/or Zyxin before administration of said drug with the levels of gene expression after administration of said drug, wherein a modulation of gene expression level after administration of the drug is indicative of a drug useful for treating acute leukemia.

5. A method for screening drugs which are useful for treating acute leukemia, comprising:

(a) administering to a cell culture a drug of interest; and

(b) comparing the levels of gene expression of LYN V-yes-1 Yamaguchi sarcoma viral related oncogene homolog, PPGB Protective protein for beta-galactosidase, and/or Zyxin before administration of said drug with the levels of gene expression after administration of said drug, wherein a modulation of gene expression level after administration of the drug is indicative of a drug useful for treating acute leukemia.

6. A kit for diagnosing ALL, comprising:

(a) a means for measuring gene expression of leukotriene C4 synthase (LTC4S) gene; and

(b) a means for measuring gene expression of Zyxin.

7. A kit for diagnosing ALL, comprising:

(a) a means for measuring gene expression of LYN V-yes-1 Yamaguchi sarcoma viral related oncogene homolog;

(b) a means for measuring gene expression of PPGB Protective protein for beta-galactosidase; and

(c) a means for measuring gene expression of Zyxin.

8. A method for screening drugs which are useful for treating acute leukemia, comprising:

(a) administering to a cell culture a drug of interest; and

(b) comparing the levels of gene expression of POU3F1 POU domain, class 3, transcription factor 1 and/or GB DEF = homeodomain protein HoxA9 mRNA in a biological sample taken from a patient with acute leukemia, wherein a modulation of gene expression level after administration of the drug is indicative of a drug useful for treating acute leukemia.

9. The use of gene expression levels of leukotriene C4 synthase (LTC4S) gene and Zyxin to diagnose ALL.

10. The use of gene expression levels of LYN V-yes-1 Yamaguchi sarcoma viral related oncogene homolog, PPGB Protective protein for beta-galactosidase, and Zyxin to diagnose ALL.

11. The use of gene expression levels of POU3F1 POU domain, class 3, transcription factor 1 and GB DEF = homeodomain protein HoxA9 mRNA for the prognosis of AML.

12. A method for diagnosing acute myeloid leukemia (AML), comprising:

(a) measuring the levels of gene expression of Zyxin and ELA2 Elastase 2, neutrophil, in a biological sample taken from a patient suspected of having AML; and

(b) comparing the levels of gene expression in said biological sample with a standard sample, wherein high levels of expression are indicative of a diagnosis of AML.